

Section II (Remarks)

Rejection of Claims on Reference Grounds, and Traversal Thereof

In the February 18, 2011 Office Action, claims 1-24 were variously rejected under 35 USC §§ 102 and 103 on reference grounds, including:

- a rejection of claims 1-4 and 7 under 35 USC § 102(b) over U.S. Patent No. 3,976,227 to Ray (“Ray”);
- a rejection of claims 1-7, 10-13, and 17-21 under 35 USC § 103(a) over U.S. Patent No. 5,590,695 to Siegle, et al. (“Siegle”) in view of U.S. Patent No. 5,014,211 to Turner, et al. (“Turner”), further in view of Ray;
- a rejection of claims 8, 15, and 23 under 35 USC § 103(a) over Siegle in view of Turner and Raym further in view of U.S. Patent No. 5,685,435 to Picioccio, et al. (“Picioccio”); and
- a rejection of claims 9, 16, and 24 under 35 USC § 103(a) over Siegle in view of Turner and Ray, further in view of U.S. Patent No. 5,048,902 to Daly (“Daly”).

Such rejections are traversed in relation to the claims as herein amended, and in light of the following remarks.

Patentable Distinction of Claims 1-4 and 7

Independent claim 1 recites:

A system for delivering multiple different chemicals to a process tool, comprising:

a first refill canister and a first process canister that are connected to a first manifold that connects to at least one first process line wherein the first refill canister refills a first chemical to the first process canister through the first manifold and wherein the first process canister supplies the first chemical to the process tool;

a second refill canister and a second process canister that are connected to a second manifold that connects to at least one second process line wherein the second refill canister refills a second chemical to the second process canister

through the second manifold and wherein the second process canister supplies the second chemical to the process tool;

wherein the first refill canister, the first process canister, the second refill canister, the second process canister and the first and second manifolds are housed in a cabinet.

Concerning the rejection of claims 1-4 and 7 under 35 USC § 102(b) over Ray, Applicants' independent claim 1 requires a system for delivering **multiple** different chemicals to a process tool – “the first process canister supplies **the first chemical** to the process tool” and “the second process canister supplies **the second chemical** to the process tool.” Ray's disclosure focuses on delivery of **one chemical**, stating that “to enhance the system flow rate in accordance with this invention, the tank pairs **are connected in parallel**.” See Ray, col. 5, lines 29-31.

In contrast, Applicants' independent claim 1 requires at least **two separate manifolds** for handling the refill of **two different chemicals** – “the first refill canister refills a first chemical to the first process canister **through the first manifold**” and “the second refill canister refills a second chemical to the second process canister **through the second manifold**.” Ray's chemical dispensing unit ties **all** canisters **42** to **one** liquid manifold **46** “to allow the tanks to empty at the same time.” See Ray, col. 4, lines 26-35 and FIG. 1. Therefore, Ray fails to disclose every element of Applicants' claimed invention, and therefore cannot anticipate independent claim 1.

“Anticipation requires the disclosure in a single prior art reference of **each element** of the claim under consideration.” *W.L. Gore & Assocs. v. Garlock*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). It is not enough that the prior art reference disclose all the claimed elements in isolation. Rather, “**anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.**” *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added).

It is correspondingly requested that the rejection of independent claim 1 and claims 2-4 and 7 depending (directly or indirectly) from claim 1 be withdrawn.

Patentable Distinction of Claims 1-7, 10-13, and 17-21

Concerning the rejection of claims 1-7, 10-13, and 17-21, the Office concedes that Siegele fails to disclose (1) an “arrangement for delivering different chemicals to the process tool in parallel,” and (2) “all the refill and process canisters in a single cabinet.” *See* February 18, 2011 Office Action, page 4. Regarding the above-referenced deficiencies, Siegele specifically fails to disclose a system including at least two different manifolds for handling the two different chemicals housed in a single cabinet.

Applicants’ disclosure acknowledges and incorporates by reference the disclosure of Siegele at page 6, lines 10-14, but Siegele fails to contemplate the advantages of a smaller foot print that is available with use of the claimed cabinet, the controlling of valve sequence and flow of gas via a single control unit, and the economy that is realized from the capability of controlling the system by a single off-site computer facilitated by use of a single process control unit in the system. *See* page 7, lines 25-28.

In an attempt to remedy the deficiencies in Siegele, the Office cites Turner for the disclosure of a “chemical delivery system with a process tool 150 fed by multiple delivery apparatus 102, 104, 106 in parallel.” *See* February 18, 2011 Office Action, page 4. Like Siegele, Turner fails to disclose at least two manifolds for handling the two different chemicals. Instead, Turner specifically discloses that “[a]n important feature of the invention is that a single set of chemical pumps with a single manifold and single distribution tube are used to deliver chemicals to multiple destinations.” Therefore, Turner’s disclosure is entirely inconsistent with and **teaches away** from Applicants’ claimed invention that requires “system for delivering **multiple different chemicals** to **a process tool**” comprising, *inter alia*, “**a first manifold** that connects to at least one first process line” and “**a second manifold** that connects to at least one second process line” wherein “the first refill canister, the first process canister, the second refill canister, the second process canister and the **first and second manifolds** are **housed in a cabinet**.”

To support a rejection under 35 U.S.C. § 103, **the prior art reference(s) must teach all of the limitations of the claims.** MPEP § 2143.03.

In considering a reference for its effect on patentability, the reference is required to be considered in its entirety, including portions that teach away from the invention under consideration. Simply stated, the prior art must be considered as a whole. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) (emphasis added); MPEP § 2141.02. “It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *Application of Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965); *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve*, 796 F.2d 443, 448 (Fed. Cir. 1986), *cert. denied*, 484 U.S. 823 (1987).

The Federal Circuit and its predecessor court have repeatedly held that **if references taken in combination would produce a ‘seemingly inoperative’ result, then such references teach away from the combination** and cannot serve as predicates for a *prima facie* case of obviousness. See *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 60 USPQ2d 1001, 1010 (Fed. Cir. 2001); *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999) (proposed combination of references that would be inoperable for intended purpose supports teaching away from combination); *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (inoperable modification teaches away); *In re Spinnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969) (references teach away from combination if combination produces seemingly inoperative device).

According to the U.S. Supreme Court decision in *KSR International Co. v. Teleflex Inc.*, 127 S.Ct 1727, 167 L.Ed.2d 705, 82 USPQ2d 1385 (April 30, 2007), the court did not disavow the previous “teaching, motivation or suggestion” or “TSM” test, but stated that such TSM text *should not be strictly applied* in determining obviousness. In connection with this point, the Supreme Court stated that:

“A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art. ... [Rather], it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant art to combine the [prior art] elements in the manner claimed.” *KSR*, 82 USPQ2d at 1389.

It is fundamental to a proper rejection of claims under 35 U.S.C. § 103 that an examiner must present a convincing line of reasoning supporting the rejection. MPEP 2144 (“Sources of Rationale Supporting a Rejection Under 35 U.S.C. 103”), citing *Ex parte Clapp*, 227 USPQ 972 (Bd. Pat. App. & Inter. 1985). The Supreme Court in *KSR* affirmed the validity of such approach, stating that “rejections on obviousness grounds cannot be sustained by mere conclusionary statements; instead, **there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.**” *KSR*, 82 USPQ2d at 1396; citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

In *KSR*, the Supreme Court further confirmed that **references that teach away from the invention are evidence of the non-obviousness** of a claimed invention, (*KSR*, 82 USPQ2d at 1395, 1399) and reaffirmed the principle that a fact-finder judging patentability “should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.”

Following *KSR*, the Federal Circuit held that although “rigid” application of the “teaching, suggestion, or motivation” (“TSM”) test for obviousness is improper, **application of a flexible TSM test remains the primary guarantee against improper “hindsight” analysis**, because a flexibly applied TSM test ensures that the obviousness analysis proceeds on the basis of evidence in existence before time the application was filed, as required by 35 U.S.C. §103. *Ortho-McNeil Pharm. Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 86 USPQ2d 1196, 1201-02 (Fed. Cir. 2008).

Applying the foregoing judicial precedent to the present rejection of claims, it is clear that neither Siegle nor Turner discloses all the elements of the invention required by independent claim 1. The Office’s combination of Siegle and Turner lacks articulated reasoning with rational underpinning, and therefore is insufficient for supporting an obviousness rejection. See *KSR, supra*.

Moreover, Turner **teaches away** from Applicants’ claimed invention. Turner discloses as **an important feature a single manifold and single distribution tube** as opposed to Applicants’ first and second manifolds. In addition, Turner discloses delivery of chemicals **to multiple destinations**, as opposed to delivery of multiple chemicals to a single process tool. The

incorporation of Turner would only produce an **inoperative result** since Turner utilizes only one manifold for multiple destinations and Siegele focuses on the refill of containers, and therefore Turner cannot serve as a predicate for a *prima facie* case of obviousness. *See McGinley, supra*.

The deficiencies of Siegele and Turner are not resolved by Ray, particularly given that none of the references disclose a first manifold and a second manifold as required by independent claim 1. Therefore, none of the cited references teach all of the limitations of independent claim 1 as required by MPEP § 2143.03.

In addition, independent claims 10 and 17 likewise require a first manifold and a second manifold housed in a cabinet. For the same reasons as discussed above with regard to independent claim 1, independent claims 10 and 17 are also patentable over Siegele in view of Turner, further in view of Ray.

Since dependent claims inherently include all of the features of the claims on which they depend, all of Applicants' claims depending (whether directly or indirectly) from independent claims 1, 10, and 17 are patentably distinguished over Siegele, Turner, and Ray for at least the same reasons as articulated in connection with claims 1, 10, and 17 above. Accordingly, withdrawal of the rejections of claims 1-7, 10-13, and 17-21 under 35 U.S.C. § 103 is warranted, and is respectfully requested.

Patentable Distinction of Claims 8, 15, and 23

Concerning the rejection of claims 8, 15, and 23 over Siegele in view of Turner and Ray, further in view of Picioccio, the citation to Picioccio fails to resolve the deficiencies of Siegele, Turner, and Ray for the reasons discussed above. Picioccio lacks any disclosure of the first and second manifolds housed in a cabinet according to independent claims 1, 10, or 17. Accordingly, withdrawal of the rejections of claims 8, 15, and 23 under 35 U.S.C. § 103 is warranted, and is respectfully requested.

Patentable Distinction of Claims 9, 16, and 24

Concerning the rejection of claims 9, 16, and 24 over Siegele in view of Turner and Ray, further in view of Daly, the citation to Daly fails to resolve the deficiencies of Siegele, Turner, and Ray for the reasons discussed above. Daly lacks any disclosure of the first and second manifolds housed in a cabinet according to independent claims 1, 10, or 17. Accordingly, withdrawal of the rejections of claims 9, 16, and 24 under 35 U.S.C. § 103 is warranted, and is respectfully requested.

CONCLUSION

Based on the foregoing, all of Applicants' pending claims 1-24 are patentably distinguished over the art, and in form and condition for allowance. The examiner is requested to favorably consider the foregoing, and to responsively issue a Notice of Allowance. If any issues require further resolution, the examiner is requested to contact the undersigned attorney at (919) 419-9350 to discuss same.

Respectfully submitted,

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